IPETRONIK

M3 Series

Developed for the Requirements of the Future

M3 Series

The new Generation of Measuring Devices

The M3 series raises the bar for modular measurement technology – ultra-compact, ruggedized, and innovative with a cable-free and magnetic connection concept that reduces setup and installation times. Thanks to its IP67 rating, extended temperature range, and ruggedized design, this series guarantees reliable data acquisition even under extreme conditions. It also offers CAN FD support for a higher channel count and synchronous recording of a growing number of sensors. Additionally, the galvanic isolation within the module (channel, CAN, supply) ensures precise and fail-safe measurements in any environment.

Easy Configuration, Data Acquisition and Analysis with IPEmotion Software

The seamless integration of the M3 modules into the DAQ software IPEmotion provides the user with one comprehensive solution for all measurements. Just a few clicks, and the easy, secure, and fast configuration with the intuitive software is done. Various analysis and visualization tools are available.

Advantages of the M3 Series

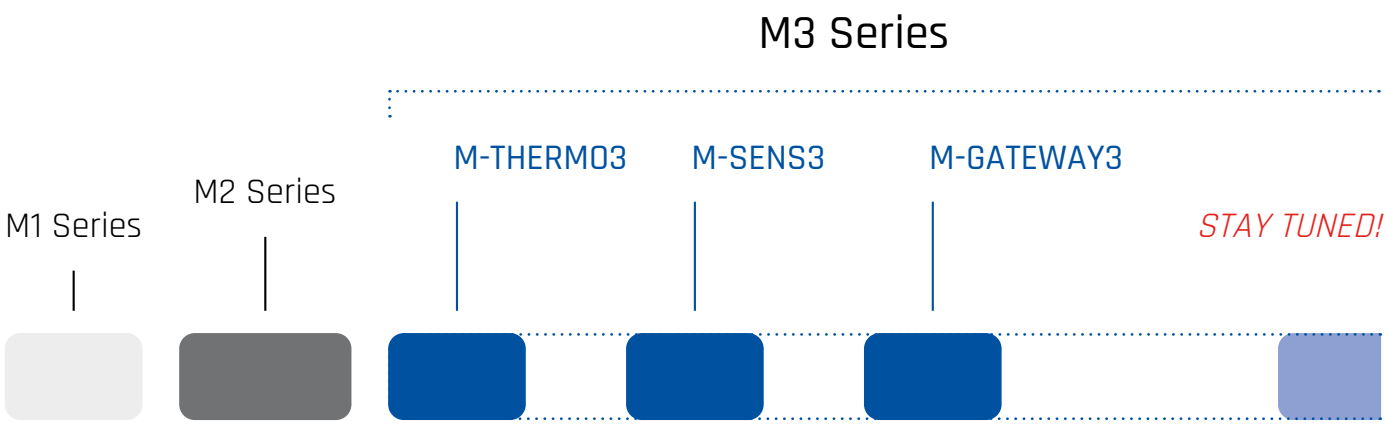
Innovative magnetic connection concept

Fast & secure CAN FD data transfer

Channel monitoring: Display of the channel & device status

IP67 rating

Continuous Evolution



M-SENS3 8

Precision meets Versatility

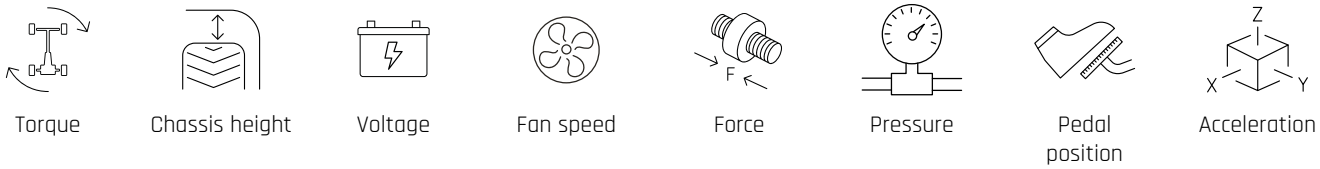
The voltage measurement module M-SENS3 8 supports highly precise voltage and current measurements as well as the new frequency recording mode. With freely selectable operating modes for each input and an 18-bit high-resolution AD converter, it is extraordinarily flexible and accurate.

Voltage supply of external sensors is ensured by uni- and bipolar sensor supplies of up to 75 mA per channel. TEDS class2 support guarantees an error-free, repeatable, and fast channel configuration. This means that the scaling of all sensors is applied directly to the measuring channel. TEDS sensors can not only be read, but also directly written. This way, all relevant sensor data, such as serial number, scaling, sensor supply, manufacturer info, and calibration dates, are available at every measurement input for optimal data security and traceability within the whole measurement chain.

Special Features

- Intelligent sensor supply concept
- Measurement range from 10 mV up to 100 V and 20 mA
- Frequency recording of up to 200 Hz
- Freely selectable operating mode for each input: V, I, Hz
- Extended temperature range -40 ... 125 °C (-40 ... 257 °F)
- TEDS class 2 support

Applications



Torque | Chassis height | Voltage | Fan speed | Force | Pressure | Pedal position | Acceleration

M-THERM03 16

Perfect Temperature Recording

Thermal management becomes more and more important in vehicle development, not least due to the steadily growing adoption of electric mobility. New temperature influences must be recorded in the system as accurately as possible. IPETRONIK's measurement modules for temperature acquisition - particularly the new M-THERM03 16 - are crucial for ensuring energy balance and reliability.

As the first member of the new M3 family, the M-THERM03 16 sets standards in modular measurement technology: The 16 channels with freely selectable thermocouple type and high-resolution 24-bit AD converter offer maximum flexibility and precision. 9 different thermocouple types can be selected for each channel.

Special Features

- High-resolution 24-bit technology
- Controllable multicolor LED for each channel
- Cold junction compensation for each channel
- Measurement data output on CAN FD
- Extended temperature range -40 ... 125 °C (-40 ... 257 °F)
- Ultra-compact and robust design

Applications

- **Thermal protection of vehicle components**
  Validation of long-term strength under various ambient conditions
- **Interior air conditioning**
  Function testing of the climate control
- **Cooling of safety-relevant assemblies**
  Verification of maximum permitted temperatures
- **Thermal management system optimisation**
  Monitoring of thermal limits in closed-loop systems

M-GATEWAY3

Next Generation Gateway Technology

The M-GATEWAY3 is the universal interface module for the M3 family. Various inputs feed the data busses into one system. The output via the standardized transmission protocol XCPonETH guarantees the signal supply of a wide range of measurement applications (3rd party systems) without loss. The data are transferred via Wi-Fi®, LAN, or USB-C. With the M-GATEWAY3, even complex measurement tasks can be set up intuitively via “Plug & Play“.

Thanks to the form factor, the M3 modules can be connected directly via the module contacting and detected in IPEmotion. The software also allows to configure the measurement chain in a quick, easy and intuitive way, with the M-GATEWAY3 serving as a universal CAN FD/Ethernet interface.

Special Features

- PC connection and supply via USB-C
- Combining Ethernet and CAN busses
- Output via XCPonETH

Do you have any questions about a product from the M3 series or a specific application? Our experts will be pleased to provide you with personal advice. Just send an e-mail to **sales@ipetronik.com** or give us a call at **+49 7221 9922 222.**

Enquire now!

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Subject to technical changes

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